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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,522	11/05/2003	Tommy Hansen	H0610.0355/P355	9436

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EXAMINER

HYUN, PAUL SANG HWA

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/700,522

Applicant(s)

HANSEN ET AL.

Examiner

Paul S. Hyun

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 07/06/04 **3-1-06**
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

"build" in line 19, page 1 should be changed to "built".

"resistant" in line 22, page 1 should be changed to "resistance".

"posses" in line 31, page 1 is misspelled.

"minimises" in line 24, page 2 is misspelled.

"pressurised" in line 10, page 4 is misspelled.

"minimise" in line 26, page 4 is misspelled.

Drawings

The drawing is objected to because it does not clearly define or show the basket 3. According to line 1, page 4 of the Specification and claim 1, the basket contains/surrounds the fixed catalyst bed 4. It cannot be determined from the drawing whether the basket surrounds the catalyst bed or whether it is continuous with the sides of the catalyst bed because the drawing does not define the width of the basket that supposedly surrounds the catalyst bed.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 4 and 5 are objected to because of the following informalities:

The word "the" should be inserted before the limitations "inner" and "position" in claim 4.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7-9 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966). Accordingly, the claims have not been examined on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification (see lines 19-22, page 2) discloses and claims 1, 4 and 5 recite a reactor having a gas impermeable basket having a wall that surrounds a catalyst bed. If a gas impermeable wall surrounds a catalyst bed, then the sample gas would not be able to flow through the catalyst bed, defeating the intended function of the reactor. It

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appears that the basket requires a pair of unconnected walls that only surround the sides of the catalyst bed in order to accomplish the intended function of the basket as disclosed by Applicants.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-5 and 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

See MPEP § 2173.05(d).

In regards to claims 3-5, claim 3 recites the limitation "the inlet layer" in line 3 of the claim. There is insufficient antecedent basis for this limitation in the claim. The limitation "around the inlet layer" recited in line 2 of the claim is also indefinite because it is not clear which one of the walls "around the inlet layer of the catalyst bed" the limitation is claiming.

In regards to claims 7-9, claim 7 provides for the use of a reactor, but since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ravault (US 3,895,917).

Ravault discloses a reactor for catalytically reacting exhaust gas at high temperatures. The reactor comprises a basket in the form of ceramic body 3 having a catalyst bed inside (see lines 54-55, col. 2). The reference also discloses that the sidewalls of the ceramic body are made impermeable by a ceramic coating (see lines 12-17, col. 4 and claim 2). The ceramic body is surrounded by insulating material 2, which is surrounded by metal casing 1. The ceramic body further comprises an inlet channel that is connected to the metal casing to form a gas leak-tight transfer of the exhaust gas (see Fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ravault in view of Mentschel (US 4,018,573).

Ravault discloses the reactor of claim 1. The reference also discloses that the reactor is used in the oxidation of hydrocarbons and carbon monoxide and that high temperature is desirable in the oxidation process (see lines 15-29, col. 1). However, the reference does not disclose a heating means to maintain a high reaction temperature. Instead, the reference discloses that the exhaust gas is fed into the reactor close to the source of the exhaust gas in order to preserve heat.

Reactors having electric heaters are well-known in the art. Mentschel discloses a reactor comprising an electric heater for controlling the temperature of the reaction within a reaction chamber (see lines 20-35, col. 7). It would have been obvious to one of ordinary skill in the art to provide a heater at the inlet channel of the reactor disclosed by Ravault as taught by Mentschel so that the oxidation of hydrocarbons and carbon monoxide can be optimized.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravault in view of Mentschel as applied to claim 3 above, and further in view of Deshpande (US 2002/0090326 A1).

The reactor of claim 3 is disclosed by Ravault in view of Mentschel as discussed above, but the references do not disclose a catalyst comprising platinum, rhodium, ruthenium or nickel.

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Deshpande discloses a reactor for processing compact fuel. The reference discloses the use of platinum to catalyze the oxidation of carbon monoxide (see [0032]). It would have been obvious to one of ordinary skill in the art to provide a coating of platinum to the modified reactor of Ravault in order to assist the oxidation of carbon monoxide.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul S. Hyun whose telephone number is (571)-272-8559. The examiner can normally be reached on Monday-Friday 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PSH

2/21/06


Jill Warden
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